Polypharmacy: How did we get here and what can we do about it?

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Objectives

1. Polypharmacy: Define polypharmacy, examine its prevalence, and look at why it's occurring
2. Multiple Pharmacy Users: Define this concept, examine prevalence and why it relates to polypharmacy
3. Nebraska PDMP: Examine the information it provides and how it is being used.
4. Opioid Crisis and Pain treatment: Briefly look at opioid crisis, multi-modal pain management (including ERAS), and how it ties into PDMP
5. Look for a ways to help our patients

Polypharmacy

- Polypharmacy is the use of multiple medications and/or supplements to treat one or more conditions; usually 5 or more medications
- Survey conducted in patients 65 years of age and older between 1988-2010
  - Study found that the median number of medications increased from 2 to 4 over the study period
  - The percentage of older adults that took 5 or more medications increased from 12.8% to 39%
  - Medication use of any kind was more probable in those with older age, more chronic health conditions, and annual health care visits
  - Use of 5 or more medications increased with BMI, higher income-to-poverty ratio, smoking history, non-black non-white race

Why Are We Using More Medications?

- More research=more treatment options
- Better understanding of disease states
- Prevention is becoming more of a goal

Let's look at an example…

- My Grandpa Dean had rheumatic fever at the age of 6…fast forward 70 years to when he had palpitations. He was not on any home meds.
  - Bet-blocker, ACE-I, Warfarin, Statin, Aspirin, Pain Meds, Stool Softeners, Diuretic, Amiodarone

Multiple Pharmacy Use

- The use of more than one pharmacy to get all one's medications filled
- Study published in 2013 examined surveys completed by pharmacy users between 2003-2009; included 89,941 participants
  - Multiple pharmacy use (MPU) increased from 36.4% to 43.2% over the study period
  - Participants used between 2-17 pharmacies; (70%) used 2
  - Mail order patrons were almost twice as likely to use more than one pharmacy in comparison to those who did not
- Increased risk of duplication, omission, and missed drug interactions

Multiple Pharmacy Use cont.

- Drug Cost
- Availability
- Need for Compounding

Enter PDMP…

What is the PDMP?

- Prescription Drug Monitoring Program
- Originally was just for narcotics in 2017, as of January 2018 ALL prescriptions from ALL pharmacies that fill for/in Nebraska
  - Retail pharmacies
  - Mail-in pharmacies
  - Physicians that dispense
  - Includes veterinarians
- Restricted Access to information
  - Physicians, Nurses, Pharmacists, and other Credentialed Health Care Professionals*
  - Must fill out a form and go thru an approval process

How does the PDMP get used?

- Bryan Health-home medication reconciliation
- Retail-can track narcotic usage
- Liability not well-defined

PDMP Information

- Need first name, last name; if they have multiple addresses it will bring up each address as a separate entry; same thing for each pharmacy, DOB will help narrow your selection
- Information listed for each patient:

  Date filled, Drug, Quantity filled, Days Supply, Prescriber, and Pharmacy that filled the Prescription

  Directions blank-never filled in

  Daily Morphine Milligram Equivalent (CDC recommends 50-90)

….Still not 100% perfect
http://dhhs.ne.gov/publichealth/PDMP/Pages/Home.aspx/

Opioid Epidemic: How the PDMP and Polypharmacy Tie In

Opioid Epidemic

- Hugely publicized
- Not easily combatable—PDMP
- Many causes
- Increased drug shortages

Opioid Analgesics

- How they work: They bind to opioid receptors (*mu, kappa, or delta* receptors) in the brain/nervous system. This blocks the pain pathway and alters how the pain is perceived.
- Triggering these receptors alleviates pain, also induces the "euphoria"
- Include morphine, oxycodone, fentanyl, meperidine

Opioid Side Effects

- Constipation
- Nausea/Vomiting
- Drowsiness
- Confusion
- Respiratory Depression
- Dependence
- Addiction
- Hyperalgesia

Multi-modal Pain Relief

- Movement away from using narcotics for pain relief whenever possible
- Narcotics-when used, used at the lowest amount possible
- Treating pain from multiple angles, going for direct source whenever possible

Multi-Modal Pain Control

- Nerve pain or neuropathy-burning, numbness, and tingling
  - Gabapentin or pregabalin
  - Local anesthetic-Lidocaine patches, muscle rubs
- Musculoskeletal
  - Muscle relaxers-cyclobenzaprine, metaxalone, methocarbamol
  - NSAIDs-ketorolac, ibuprofen, naproxen, meloxicam, diclofenac
- Central action/other options
  - Acetaminophen and tramadol
  - Migraines-triptans
  - Benzodiazepines

Enhanced Recovery After Surgery (ERAS)

- Multi-modal treatment during pre-, intra-, and post-operative time periods to improve pain control and decrease narcotic use

- **Pre-op:** IV Acetaminophen, Celecoxib, Gabapentin, Benzodiazepines, Local anesthetic whenever possible
- **Intra-op**: Propofol, lidocaine, temperature control, ketamine (low dose)
- Post-op: nausea, scheduled analgesics

Non-medication options

- Heat or cold therapy
- Therapy
- Exercise/strengthening
- Massage
- Relaxation techniques
- Music

How do you help your patients?

How you can help

- Encourage ALL patients to carry a list of their medications (including supplements) AND allergies
- Help update it when able
- Include the indication for medications on the list
- When stopping a medication- notify the appropriate pharmacy
- Tailor medication therapies when possible
- When teaching patients about medications, pick 3 most common side effects and when they should call their provider
- Encourage patients to pick ONE pharmacy whenever possible
- Use PDMP!

Any questions?